

System for measuring fluid velocity using sound pulse transit times

Patent number: DE19626865
Publication date: 1998-01-08
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Classification:
- **International:** G01P5/00; G01F1/66; G01F25/00
- **European:** G01F1/66F; G01F25/00A; G01P5/24T
Application number: DE19961026865 19960704
Priority number(s): DE19961026865 19960704

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Abstract of DE19626865

A system (10) for measuring the transit times of sound signals in a moving fluid (18) to establish flow speed (V) in pipes (16) employs a narrowband ultrasonic transducer (12) as transmitter and an identical unit (14) as receiver enabling their roles to be reversed via a changeover switch (20). The method establishes a first or coarse evaluation of the sound pulse transit time (tg) by scanning the envelope of the triggered (26) signal with measurements referred to a pre-defined percentage of the maximum amplitude of the signal envelope. A second and fine determination of transmit time (tf) is afforded by observing a natural zero of the oscillatory sound signal when the difference (tg-tf) is compared with calibrated data to derive stream velocity (V).

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